

WHAT IS CLAIMED IS:

1. A liquid purification system for decontaminating
microbe infested liquid, comprising:

(a) primary tank means for containing a purifying
liquid composition and an initially treated microbe
infested liquid, said purifying liquid composition and said
microbe infested liquid being immiscible each with respect
to the other, said purifying liquid composition being
located in an upper section of said primary tank means and
said initially treated microbe infested liquid being
located in a lower section of said primary tank means;

(b) means for heating said purifying liquid
composition;

(c) means for passing said microbe infested
liquid through said heated purifying liquid composition for
initially heating said microbe infested liquid whereby said
microbe infested liquid is heated by contact with said
heated purifying liquid composition for destroying microbes
contained in said microbe infested liquid to produce said

initially treated microbe infested liquid; and,

(d) primary conduit means located within said primary tank means in thermal contact with said heated purifying liquid for secondarily heating said initially treated microbe infested liquid to provide a substantially purified liquid.

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2. The liquid purifying system as recited in Claim 1 where said primary tank means includes a primary tank member having a liquid inlet and a liquid outlet, said microbe infested liquid being inserted into said tank member through said liquid inlet and said substantially purified liquid being removed from said tank through said liquid outlet.

3. The liquid purification system as recited in Claim 2 where said primary tank member extends in a vertical direction, said liquid inlet being in fluid communication with said primary tank member upper section and said liquid outlet being in fluid communication with said primary tank member lower section and discharging said substantially purified liquid from said upper section of said primary tank member.

4. The liquid purification system as recited in Claim 2 where said means for passing includes first conduit means in fluid communication with said upper section of said primary tank member for insertion of said microbe infested liquid therein.

5. The liquid purification system as recited in Claim 4 where said purifying liquid composition has a specific gravity less than said microbe infested liquid.

6. The liquid purification system as recited in Claim 5 where said microbe infested liquid passes through and in thermal contact with said purifying liquid by gravity assist.

7. The liquid purification system as recited in Claim 1 where said purifying liquid composition is a liquid hydrocarbon composition.

8. The liquid purification system as recited in Claim 7 where said liquid hydrocarbon composition is olive oil.

9. The liquid purification system as recited in Claim 1 where said means for heating includes electric heating means.

10. The liquid purification system as recited in Claim 9 where said purifying liquid composition is heated to a temperature within the approximate range of 200°F to 250°F.

11. The liquid purification system as recited in Claim 9 where said substantially purified liquid is heated to a temperature within the approximate range of 160°F to 212°F subsequent to said initial and secondary heating within said primary tank member.

12. The liquid purification system as recited in Claim 1 including means for preheating said microbe infested liquid prior to insertion into said upper section of said primary tank means.

13. The liquid purification system as recited in Claim 12 where said means for preheating includes counterflow heat exchange means for transferring heat from said substantially purified liquid to said microbe infested liquid.

14. The liquid purification system as recited in Claim 13 where said counterflow heat exchange means includes a vertically directed secondary tank means defining a secondary tank member including secondary conduit means for transferring said microbe infested liquid upwardly through said secondary tank member and inlet means for introducing said substantially purified liquid into an upper section of said secondary tank member and into contact with an outer surface of said secondary conduit means.

15. The liquid purification system as recited in Claim 1 where said primary conduit means extends through said upper section of said primary tank means and includes an inlet located below a meniscus formed by said purifying liquid composition and said initially treated microbe infested liquid.

16. The liquid purification system as recited in Claim 3 where said primary conduit means includes a coiled conduit extending between said liquid outlet and said primary tank member lower section for transferring said initially treated microbe infested liquid therebetween.

17. The liquid purification system as recited in Claim 16 where said initially treated microbe infested liquid is passed through said primary conduit means against the force of gravity by fluidic pressure developed within said primary tank member.

18. A method of decontaminating microbe infested liquid comprising the steps of:

(a) providing a purifying liquid composition in a primary tank member, said purifying liquid composition being immiscible with respect to said microbe infested liquid;

(b) heating said purifying liquid composition;

(c) passing said microbe infested liquid through said heated purifying liquid composition for transferring heat from said heated purifying liquid composition to said microbe infested liquid for destroying microbes to produce an initially treated microbe infested liquid; and,

(d) further heating said initially treated microbe infested liquid within said tank member subsequent to said passing step to produce a substantially purified liquid.

19. The method as recited in Claim 18 where the step of passing said microbe infested liquid includes the step of displacing said microbe infested liquid by gravity assist through said purified liquid composition.

20. The method as recited in Claim 18 further including the step of pre-heating said microbe infested liquid prior to insertion into said primary tank member.

21. The method as recited in Claim 18 further including the step of expelling said substantially purified liquid from said primary tank member against the force of gravity by fluidic pressure developed within said primary tank member.

22. The method as recited in Claim 21 where the steps of further heating and expelling are performed substantially contemporaneously.